Annotated Bibliography of Research on Low Vision

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This low vision bibliography of nonmedical, empirical research involving more than one subject contains approximately 150 abstracts of articles published from 1953 to the present. It was compiled primarily using abstracts from the following three sources:

Blindness, Visual Impairment, Deaf-Blindness Annotated Listing of the Literature (BVIDB)

Psychological Abstracts (PSYCH)

Resources in Education, Educational Resources Information Center (ERIC)

Abstracts of medical articles, of articles which did not indicate the use of empirical research, or of articles which were too general in content are not included.

For ease in analyzing the information, the abstracts were grouped alphabetically by authors under the following 28 subtopics:

Assessment
Audition
Black Light
Behavior Reinforcement
Characteristics and Behaviors
Closed-Circuit TV
Computers
Conservation of Matter

Contrast and Color

Demographics

Driving

Educational Plans

Employment and College Preparation

Intelligence

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Low Vision Aids Training

Mathematics

Microfiche

Miscellaneous

Mobility

Motor Performance

Optical Aids

Reading

Self-Concept

Tactual Perception

Teacher and Family Training

Type Size and Style

Visual Efficiency Training

If an article pertained to more than one of the subtopics, it was grouped under the one which seemed to be of prime importance.

Assessment

Berla, E. P., Rankin, E. F., & Willis, D. H. (1980). Psychometric evaluation of the low vision Diagnostic Assessment Procedure. Journal of Visual Impairment and Blindness, 74, 297-301.

The DAP was administered twice to 112 legally blind students aged 5 to 20. The results are discussed along with the hierarchical nature of the DAP and the validity of its content and construct.

BVIDB

Harley, R., & Spollen, J. (1973). A study of the reliability and validity of the visual efficiency scale with low vision children. Education of the Visually Handicapped, 5, 110-114.

The Visual Efficiency Scale (VES), designed to assess visual descrimination of low-vision children, has 48 visual descrimination items grouped in 4 subtexts. It was administered to 78 6 to 8 year old low-vision children in residential schools. Results indicate that the VES has both content validity and internal consistency. Item analysis shows that most of the test items sufficiently discrimination between high and low scorers. Some items were inappropriately placed according to efficiency rating. Results agreed with those of a previous study with preschool normally-seeing children.

PSYCH

Kraetsch-Heller, G. (1976). Use of the Beery Visual-Motor Integration Test with partially sighted students. Perceptual and Motor Skills, 43, 11-14.

Report on the test which is designed to assess visual-motor coordination and determine potential learning disabilities. Of the students examined, the partially sighted scored three years, eight months below the sighted norm. Females scored slightly higher.

BVIDB

Lewis, P. J., & Maron, S. (1977). Teacher's evaluation for low vision needs: an instrument for assessing educational visual functioning. Education of the Visually Handicapped, 9, 65-71.

An instrument used to assist teachers in the prescription of appropriate print size for the partially sighted student, the Teacher's Evaluation for Low Vision Needs, was field-tested for reliability with 54 legally blind and partially sighted students (7-14 years old) who used large print books.

Lindstedt, E. (1979). Assessment, counseling, and training of integrated visually impaired children. Journal of Visual Impairment and Blindness, 73, 351-358.

Describes experimental work that has been done in Sweden in creating services for integrated visually handicapped children at a Center for assessment, counseling, and training, located at a residential school. Principles and methods applied are outlined and a report given of 70 children visiting the Center during one time period. Clinical procedure and follow-up is described.

BVIDB

Audition

Morris, J. E. (1976). Facilitating the education of the visually handicapped through research in communications: 15 November 1972-30 April 1976, final report. Washington, DC: Bureau of Education for the Handicapped.

The first of three-volume final report contains results of 6 studies on teaching visually impaired students (grades 4-12) to use recorded reference materials. It is explained in the first study that 36 blind Ss demonstrated an acceptable level of proficiency in using dictionary and encyclopedia materials after being trained on the Aural Study System (a combination special record player, unique record format, and related written materials). The second study reports on an adaptation of the Aural Study System and describes results of two field trials with 25 legally blind Ss. The third study focuses on an investigation of the relative accuracy and time requirements for 48 legally blind students on six written indexes which accompany the aural reference system. Reported are findings of a fourth experiment which indicate that 24 legally blind Ss used a cassette adaptation of the system with accuracy and within time limits, but that the system required further refinements to improve its reliability. A comparison of accuracy and time for recorded dictionary materials and more familiar braille or large type materials is reported in the fifth study involving 16 legally blind sixth and seventh graders. The sixth study describes a consumer review of the cassette dictionary

in which 80% of the Ss (10 mature blind consumers, 10 teachers of secondary level blind students, and 10 librarians as residential schools for the blind) stated that they preferred a written dictionary to a recorded one.

Nolan, C. Y., & Morris, J. E. (1974). Program for facilitating the education of the visually handicapped through research in communications. American Printing House Aural Study System as a Reference Source: Interim Progress Report No. 1. Washington, DC: Department of Education for the Handicapped.

Investigated was the ability of the 18 blind and 18 partially sighted students in grades 4 through 12 to use the Aural Study System, which features unique indexing capabilities for searching recorded reference materials, to locate encyclopedia and dictionary items within practical time limits. Analyses were made of the time required to locate items, the accuracy with which items were located, and the accuracy of responses to questions about the items using both recorded and written (braille and large type) forms of the reference materials. Results indicated few differences of practical significance between Ss efficient use of recorded references and of their braille and large type counterparts, leading to the conclusion that further development of the Aural Study System as a reference tool is justified. Other factors, such as lower cost and vast reduction of required storage space, strongly support developing recorded references.

Stankov, L. (1980). Ear differences and implied cerebral lateralization on some intellective auditory factors. Applied Psychological Measurement, 4, 21-38.

Administered a battery of auditory tests under the conditions of monaural and binaural presentation to 90 sighted, partially sighted, and blind Ss (mean age 13 years). Results indicate that both primary and second order factors were similar to those found earlier with the same tests. The hierarchical solution also indicates that most of the differences between the conditions of presentation occurred at the lowest order of factoring. Differences between the means show the same trends as those reported in the literature on hemispheric specialization. Obtained 1st-order factors were interpreted as tonal memory, speech perception under distraction/distortion, and maintaining and judging rhythm, all representing a measure of General Auditory Function (GAF). In addition, a broad 1st order factor of fluid intelligence was identified along with temporal tracking, representing an interesting new component. Although GAF is a broad perceptional factor akin to general visualization, it differs from the latter in an important way. It is suggested that competition between the auditory messages may be typical of GAF but that the hemishperic localization is not.

PSYCH

Behavior Reinforcement

Medina, N. (1976). The effects of social or material reinforcement on the 1973 Stanford achievement test performance of legally blind students. Dissertation Abstracts International, 37, 223-224.

The purpose of this study was to determine whether legally blind youngsters' performance on a large print standardized achievement test could be increased through the use of social or material reinforcement.

Random sampling techniques were used to assign the 63 fourth-, fifth- and sixth- grade legally blind students to nine groups of equal size: (1) control groups for grades four, five, and six; (2) social reinforcement groups for grades four, five, and six; (3) material reinforcement groups for grades four, five, and six. All subjects were enrolled in public school programs in California, and only those who were no more than 6 months below grade level in reading and who were no more than 6 months overage for grade placement was given using Test 2 (Reading Comprehension) of the large print Stanford Achievement Test, Form A, Primary Level III and Intermediate Levels I and II.

Each subject was tested individually by his/her resource or itinerant teacher of the visually handicapped. The teachers were asked to go over the instructions as outlined in the test booklets with each participant. In addition, members of the social reinforcement groups reinforced for every correct response with such expressions as: "You're doing a fine job." "Keep up the good work." "You're a hard worker." "I'm so proud of you." The members of the material reinforcement groups were given a poker chip for every correct response, which they turned in at the end of the testing session and were paid two cents for each chip.

Although differences tended to be in the direction of favoring the social reinforcement group as compared to the control group, there was significance (at the .10 level) only with respect to the fourth grade program. Similar differences were observed favoring the material reinforcement group as compared to the control groups, but none was significant. When the social reinforcement groups were compared to the material reinforcement groups, results suggested slightly better achievement by the social reinforcement groups, but these were all statistically insignificant.

PSYCH

Swanson, H. L. (1977). Effect of positive reinforcement on visual academic performance with a partially-sighted child. Education of the Visually Handicapped, 9, 72-76.

A multiple baseline design was used to assess the effects of positive reinforcement on a partially sighted 8-year-old girl's visual academic performance. Tasks of matching and counting number sets without teacher or tactual cues were assessed under conditions of primary reinforcement (i.e., M & M's) and primary reinforcement paired with social praise. Academic accuracy increased from a baseline rate of approximately 45% for both behaviors to an overall treatment rate of 85%. Pairing primary reinforcement with praise in the classroom setting had the most pronounced effect on academic behavior. Follow-up procedures indicated that visual academic behavior has maintained at an accuracy level above 80% implications for teachers are discussed. PSYCH

Black Light

Poland, D. J., & Doebler, L. K. (1980). Effects of a black-light visual field on eye-contact training of spastic cerebral palsied children. Perceptual and Motor Skills, 51, 335-338.

Four subjects, aged 6 to 7, identified as visually impaired, where given training in making eye contact with a stimulus under both white and black light visual field. All subjects performed better under the black light condition, even overcoming the expected practice effect when white light training followed black light training.

Potenski, D. H. (1983). Use of black-light in training retarded, multiply handicapped, deaf-blind children. Journal of Visual Impairment and Blindness, 77, 347-348.

One group of severely or profoundly retarded, multiply handicapped, deaf-blind children were given a training program using a black light environment which allowed for the removal of all distracting stimuli and for exaggeration of the critical features from which the children learn. Another group was given training under normal light. The children trained under black light performed the tasks they had been taught significantly better than the children trained under normal light.

BVIDB

Characteristics and Behaviors

Bateman, B., & Wetherell, J. L. (1967). Some educational characteristics of partially seeing children. International Journal for the Education of the Blind, 17, 33-40.

With supporting tables, summarizes relationships found in 6 analysis of data obtained from 31 teachers about 297 partially seeing children. Some findings appear to be related to characteristics of the teachers.

BVIDB

Carroll, H. C., & Hibbert, F. G. (1973). The perceptutual ability of a class of partially sighted children. Association of Educational Psychologists' Journal & Newsletter, 3, 17-21.

Surveyed the perceptual ability of 13 partially sighted school children on the following measures: Williams Intelligence Test for children with defective vision, Frostig Developmental Test of Visual Perception, Bristol Social Adjustment Guides, Burt (re-arranged) Word Reading Test, and the Staefordshire Arithmetic Test. The younger Ss were more intelligent, had better perceptual ability, and were not nearly as backward as the older pupils. Results suggest that in order to avoid deterioration, partially sighted children should be given special education from at least age five.

PSYCH

Casey, S. M. (1978). Cognitive mapping by the blind. Journal of Visual Impairment and Blindness, 72, 297-301.

For the study, tactile maps of a school campus were made by ten congenitally blind and ten blindfolded partially sighted high school students. Most of the maps made by the congenitally blind Ss were poorly organized as compared with the others.

BVIDB

Costelloe, C. A. (1974). A comparison of the responses by mothers of blind, partially blind, and sighted children to the children's behavioral classification project. Dissertation Abstracts International, 35, 1042.

A comparison of the responses of mothers of 54 blind, partially sighted, and sighted children to the Behavioral Classification Project (BCP) indicated significantly higher schores in the direction of perceiving more behavioral problems on a greater number of BCP factor dimensions than did mothers of partially blind and sighted children. The scores of the partially blind children most often fell between that of the blind and sighted and did not differ significantly from either. In addition, moderate interrater reliabilities indicated that these results apply only to mothers' perceptions. The results point to a need for further research concerning the observed behavioral problems that accompany visual handicaps, as well as how these differences are perceived by significant persons in the child's life.

PSYCH

Daugherty, K. M., & Moran, M. F. (1982). Neuropsychological, learning, and developmental characteristics of the low vision child. Journal of Visual Impairment and Blindness, 76, 398-406.

This study was conducted to provide a comprehensive profile of the low vision child in the areas of cognitive, psychomotor, academic, and neuropsychological development. The case-study method was employed to study 50 children on 143 variables using the Halstead-Reitan Neuropsychological Battery, the Stephens Piagetian Battery of Reasoning Assessments, and standardized achievement tests. Results indicated that the sample was characterized by significant delays in cognitive and psychomotor development and academic achievement. Sixty-five percent were classified as either brain damaged or learning disabled according to the Selz & Reitan Rules Analysis (1980) and the Halstead Impairment Index to the neuropsychological data.

BVIDB

DeMarinis, V. R. (1978). Development of multipurpose reporting profiles on the visual functioning of low vision students. Dissertation Abstracts International, 39, 3511-3512A.

Low vision medical clinicians and special education teachers were asked to rate statements presented on an educational and on a medical profile. The ratings and comments were used in revising the reporting forms. It is suggested that the revised form be field-tested nationally and that the finalized form be made available to educational agencies.

BVIDB

Dixon, J. M. (1980). Daydreaming and related mental activity in blind and partially sighted males. Dissertation Abstracts International, 40, 5807B.

Presentation of the results of a study of daydreaming and related mental activity in a sample of 30 totally blind and 30 partially sighted males aged 24 to 59 years. Half of each group was congenitally blind and half was adventitiously blind.

BVIDB

Driggers, S.H. (1983). The relationship between the behavior of the elementary school level blind and low vision child and social acceptance by sighted peers. Dissertation Abstracts International, 44, 1052-A.

The purpose of this study was to examine the relationship between inappropriate behavior of blind and low vision children and their social acceptance by sighted peers in the regular classroom. The finding that the blind child was less accepted and may in fact be ignored or isolated in the classroom is of extreme importance to professionals working with that child in a school setting. Strategies to improve acceptance are presented and implications for further research are discussed.

BVIDB

Genensky, S. M. (1981). Problems of partially sighted person. Journal of Visual Impairment and Blindness, 75, 12. (Reprint from 1980 Rehabilitation Brief, III.)

Reports on the conclusions and recommendations made by the Visual Environmental Adaption Problems of Partially Sighted Persons after a three-year study under the direction of the author. The study has three major purposes: To collect detailed information on a sample of partially sighted people and the problems they encounter; to study ways in which particular people cope; and to make suggestions based on this data to institutions, health professionals, and other partially sighted people.

BVIDB

Greenberg, H., & Jordan, S. (1957). Differential effects of total blindness and partial sight on several personality traits. Exceptional Children, 24, 123-124.

The Bernreuter Personality Inventory and the F scale were administered to 191 legally blind students. The totally blind group was found to be less authoritarian than the partially sighted. No differences found on Bernreuter scales.

BVIDB

Karnes, M. B., & Wallersheim, J. P. (1963). An intensive differential diagnosis of partially seeing children to determine the implications of education. Exceptional Children, 30, 17-25.

A study of 16 such children concludes that "psycholingualistic processes involving visual and motor abilities...are significantly inferior to their auditory and vocal abilities." Hypothesis that these children are not achieving at a level commensurate with their potential was strongly but not fully confirmed.

BVIDB

Karnes, M. B., & Wollersheim, J. P. (1963). An intensive differential diagnosis of partially seeing children to determine the implications for education. Champaign, IL: Champaign Community Unit 4 Schools, Department of Special Services.

A battery of tests given 16 partially sighted children grades 1-8, characteristics as a group and as individuals delineated, hypothesis regarding partially seeing tested. Areas tested include intelligence, psycholinguistic abilities, visual retention, social maturity, actual achievement. Three case studies provided.

BVIDB

LaDuke, R. O. (1979). A comparative study of the conformity behavior of low vision and normal children. Dissertation Abstracts International, 39, 6698A.

Two groups (51 low vision residential school students, and 72 normal students who attended public school) were used. Group membership was a significant predictor of two criterion variables, total conformity and critical conformity. Low vision children were more conforming than normal children. Sex was a significant predictor of total and neutral conformity in the low vision group, with girls conforming more than boys.

BVIDB

Lansdown, R. (1975). Partial sight--partial achievement? Regional Review, 3-6.

A study of 30 partially sighted children aged 6 to 10 and a carefully selected control group indicated that the partially sighted Ss were slower at pressing buttons, and recognizing shapes and letters, but there were no differences in spelling or accuracy of reading or comprehension of reading. The rate of reading did not differ significantly.
BVIDB

Lansdown, R. (1975). Partial sight--Partial achievement? Special Education--Forward Trends, 2, 11-13.

The performance of 30 nonhandicapped and 30 partially sighted British children (6 to 10 years) on a series of tests was compared. Results indicated that the partially sighted Ss needed more time to complete tasks involving recognition of visual materials but that there was no difference between Ss and controls in understanding visually presented problems or in reading and spelling performance. BVIDB

Mehr, H. M., Mehr, E. B., & Auld, C. (1970). Psychological aspects of low vision rehabilitation. American Journal of Optometry and Archives of American Academy of Optometry, 47, 605-612.

Discusses the formation of a group of partially sighted 15-16 year old Ss and professional people of various disciplines to learn about the problems of being partially sighted. Observation revealed: (1) denial reactions, (2) over-independent reactions, and (3) defensive reactions.

BVIDB

Overbury, O., Greig, D., & West, M. (1982). The psychodynamics of low vision: A preliminary study. Journal of Visual Impairment and Blindness, 76, 101-105.

A preliminary study using a small sample of 20 visually impaired subjects found that psychological characteristics may be important determinants of the subject's acceptance of low-vision aids. The results indicated that the successful use of low-vision aids may be related to positive attitudes towards the use of residual vision and to lack of depressive symptoms.

BVIDB

Parsons, A. A. (1982). An exploratory study on the patterns of emerging play behavior in young children with low vision: The acquisition of concepts as evidence of cognitive development. Dissertation Abstracts International, 43, 759A.

This study on the play behavior of young children with low vision investigated patterns of emerging play behavior and children's capacity to generate ideas about the appropriate use of objects as evidence of ability to acquire concepts through the use of distance vision. Other questions included concerned trends of play activity across age levels and the relationship between language ability and the quality of play behavior.

BVIDB

Van der Merwe, S. W. (1966). Pictures of the intellectual orientation of partially-sighted children. Educational Studies.

The Williams Intelligence Test for Children with Defective Vision, a reading test, a dictation test, Rorschach cards, and other specially constructed tests of visual and graphic expression were used in the study. Findings show a high incidence of emotional disturbance, inadequate attunement to spritual values, poor to indifferent quantitative indices, and insufficient intellectual development.

BVIDB

Weinberg, B. (1964). Stuttering among blind and partially sighted children. Journal of Speech and Hearing Disorders, 29, 322-326.

Stuttering in blind children is within the range of incidence in the general population.

BVIDB

Closed-Circuit TV

Bikson, T. K., et al. (1978). Interactive classroom television systems: Educational impact on partially sighted students. Santa Monica, CA: Rand Corporation.

The report presents the results of an evaluation of the educational impact in two Los Angeles County, California, elementary schools, of Interactive Classroom Television Systems (ICTs--closed circuit systems that permit continuous two-way visual communication between teachers and partially sighted students and enable such students to make the fullest possible use of their residual vision). The two ICTS sites and their participants are discribed, along with the project's evaluation design, the kinds of assessments employed, and the data collection schedule. In general, assessment of project outcomes over two years suggested that ICTS have a strong positive impact on the educational experiences of partially sighted elementary school students in the three areas evaluated: academic achievement, visually dependent skills (visual motor integration and visual sequential memory) and psychosocial mediators of school success (attitudes towards academic evaluation, toward peers, and towards self).

Bikson, T. H. and others. (1979). Television-mediated education for the visually impaired: A longitudinal investigation. Santa Monica, CA: Rand Corporation.

Interactive closed circuit classroom television systems were installed in two special classrooms to evaluate their impact on learning experiences of severely visually impaired students. During a 3 year period data were collected from approximately 14 students measuring achievement, visual motor integration, visual memory, and relevant social psychological dimensions (self-esteem, social distance from students and teachers, and attachment to peers). Results indicated significant improvements across measurement areas. Achievement scores approximated grade normal by the final year, suggesting that the experimental system provided educational opportunities comparable to those experienced by the fully sighted.

BVIDB

Bikson, T. H., Bikson, T. K., & Gěnesky, S. (1982). Television-mediated education for the visually impaired: A longitudinal investigation. International Journal of Rehabilitation Research, 5, 244-245.

Reported is the use of an Interactive Classroom Television System (ICTS), a way of creating a visual classroom environment for partially sighted students by using the magnification, brightness, and contrast capabilities of television cameras and monitors. Such a system, with a videotaping and videoreplay capacity, permits teachers and partially sighted students to be in continuous two-way communication. Moreover, it allows sight handicapped students to use ordinary print, classroom pictures, pen and pencil, to consult the blackboard, and draw and paint. Also described are the educational effects of ICTS upon elementary, partially sighted students.

BVIDB

Brand, H. J. (1976). The use of closed-circuit television as an aid in the administration of psychological tests to partially sighted children. Education of the Visually Handicapped, 8, 53-57.

Two groups of 9 partially sighted, white, male, primary students matched on the basis of chronological age and IQ score were compared for the study. The results indicated that Ss who completed projective tests by means of CCTV produced significantly better organized protocols, suggesting that CCTV should be used whenever projective tests of personality are being used in assessment of partially sighted subjects.

BVIDB

Genensky, S. M. (1970). Closed circuit TV and the education of the partially sighted. Santa Monica, CA: Rand Corp.

Study of 50 legally blind Ss with a wide variety of eye disorders indicated that for the legally blind CCTV is significantly more useful than purely optical aids.

BVIDB

Genensky, S. M., Moshin, H. L., & Petersen, H. E. (1973). Performance of partially sighted with Randsight I equipped with an X-Y Platform. Santa Monica, CA: Rand Corp.

Describes test used to determine how well a partially sighted subject can read and write with the help of CCTV system, Randsight I. Results for 81 Ss provided.

BVIDB

Genensky, S. M., et al. (1974). An interactive CCTV system for educating partially sighted and some other types of handicapped children, Santa Monica, CA: Rand Corp.

Describes use and benefits (on basis of short-term evaluation) of a highly interactive multicamera-multimonitor system permitting a resource teacher and her handicapped elementary school students to be in continuous visual communication with one another.

BVIDB

Genensky, S. M., et al. (1974). An interactive CCTV system for educating partially sighted and some other types of handicapped children. Washington, DC: Social and Rehabilitation Service.

A highly interactive multicamera-multimonitor closed circuit television system is described which permits a resource room teacher and her handicapped elementary school students to be in continuous visual communication with one another. On the basis of the relatively short-term observation, data is [sic] reported to show that the system is of most help to partially sighted students, although it is also beneficial for educable mentally retarded and hearing impaired children. Appendixes contain data on the measurement of x-rays associated with closed circuit television monitors, tests that have been administered to the students, and entries from the teacher's log reporting the use of the current teacher-student system.

Genensky, S.M. et al. (1974). Interactive classroom TV systems for the handicapped. Washington, DC: Social and Rehabilitative Service.

One of a series on the visual information transfer problems of the partially sighted, the report describes an interactive, multi-camera, multimonitor closed circuit television (CCTV) system that permits continuous visual communication between teacher and students in an elementary school resource room. The system (in use since November 1973) is the first known classroom CCTV system for the handicapped and it enables students with severely impaired vision to read ordinary print, to write with a regular pen or pencil, to carry out operations requiring precise eye-hand coordination, and to see a teacher's written examples while listening to her verbal explanations. The system is reported to be helpful to educable mentally retarded and hearing impaired students and may also prove beneficial to similarly handicapped adults. Provided are sections on system components and design features, engineering considerations, and proof-testing the classroom TV system. Appendixes include technical information on system components; a description of nine performance tests (of intelligence, achievement, perception, and school attitude) administered to measure the effectiveness of the CCTV system; and entries from the teacher's log showing how the system has been used and describing associated problems and successes.

Genensky, S. M., et al. (1977). A second-generation interactive classroom television system for the partially sighted. Santa Monica, CA: Rand Corp.

Report on the ICTS system currently being used in a California elementary school to permit continuous two-way visual communication between partially sighted students and their teachers.

BVIDB

Goodrich, G. L., et al. (1977). Training and practice effects in performance with low vision aids: A preliminary study. American Journal of Optometry and Physiological Optics, 54, 312-318.

Twenty-four partially sighted adults were studied to determine increases in reading speed and duration while using either a CCTV or an optical aid. Increases were shown with both devices, but the rate of increase and the absolute gain in reading speed and duration were greater for CCTV Ss.

BVIDB

LaGrow, S. (1981). Effects of training CCTV reading rates of visually impaired students. Journal of Visual Impairment and Blindness, 75, 368-373.

This study investigated the effects of a closed circuit television (CCTV) system on the reading rates of six visually impaired, college-bound students. Results indicated that after systematic instruction in the use of CCTV, the reading rates of all the students increased. BVIDB

Newman, J. D., & Lax, B. (1972). Evaluation of closed circuit TV reading systems for the partially sighted. Journal of the American Optometric Association, 43, 1362-1366.

Four models of closed-circuit TV reading systems were evaluated for 93 partially sighted individuals. In some, reading speed improved, but patients seemed to prefer simpler aids.

BVIDB

Pors, B. (1980). Experimental provision of closed circuit television at a Danish public library. Journal of Visual Impairment and Blindness, 74, 102-104.

A large percentage of participants who had been unable to read before the experiment found that they could read with CCTV. A significant number of all participants expressed a willingness to use CCTV in their own libraries if the equipment was made available.

BVIDB

Stephenson, J. (1984). The provision and use of closed-circuit television magnifiers in public libraries: An interim report. The New Beacon, 68, 33-35.

A survey of 11 British libraries providing CCTV devices for visually impaired users is presented and discussed. The issue of costs versus benefits is unresolved.

BVIDB

Turner, P. J. (1976). The case for CCTV in the rehabilitation of the low vision patient: Part 2. Optometric Weekly, 67, 833-837.

A study of 81 low vision patients indicated that CCTV is appropriate only for patients with very low vision and that motivation is the main factor in successful use.

BVIDB

Zabel, L., Bouma, H., & Melotte, H. (1982). Use of the T.V. magnifier in the Netherlands: A survey. Journal of Visual Impairment and Blindness, 76, 25-29.

Persons with low visual acuity can read with a T.V. magnifier, according to a survey of 280 users of the aid in the Netherlands. Survey respondents found the T.V. magnifier indispensible for such tasks as reading, writing, and looking at photographs. The survey also identified structural and instructional problems, and the authors offer suggestions for improving the aid which would lead to its wider use.

BVIDB

Computers

Marquis, J. G. (1984). Microcomputer usage by a low vision student: A case study. Dissertation Abstracts International, 44, 3033A.

The intent of the study was to observe a low vision high school student over a specified period of time to determine the effects of microcomputer usage on his educational and other experiences. The study was conducted using ethnography, a qualitative research methodology. The author observed in school, home and related settings. Data analysis showed that the student was knowledgeable in basic programming and microcomputer usage. He interacted with peers more actively when a microcomputer was involved. The student read the characters on the video monitor with a negative contrast more readily than he read print with a positive contrast. Microcomputer usage allowed the student to complete homework independently. The student's self-esteem was heightened through successful experiences with the computer and his expertise was recognized by others around him. The student identified a career goal in computer sciences because of his successful experiences. The microcomputer was not viewed as a unique adaptation for visual impairment. Microcomputer usage provided the student with a means to participate more fully in a mainstreamed setting.

BVIDB

Morrissette, D. L. (1984). Large-print computers: An evaluation of their features. Journal of Visual Impairment and Blindness, 78, 428-434.

Three large-print computers are evaluated in this article: the Apollo Computer Terminal System, the Viewscan Text System, and the Visualtek Large Print Display Processor. The Apollo Professional Typing System, although not a computer, also is reviewed since it is an option with the Apollo Terminal System. The advantages and disadvantages of each system are explored.

BVIDB

Conservation of Matter

Miller, C.K. (1969). Conservation in blind children. Education of the Visually Handicapped, 1, 101-105.

Explanation of Piagetian framework of conservation. Results of a study indicated that a partially sighted group did significantly better than a low vision group in their ability to conserve.

BVIDB

Swanson, H. L. (1979). Partially sighted children's conservation development. Journal of Genetic Psychology, 135, 153-154.

Tested conservation of mass, weight, and volume in 120 partially sighted, sighted, and sighted blindfolded children at 4 age levels from 6 to 15 years. Performance of partially sighted and blindfolded Ss lagged behind that of sighted Ss providing evidence that partially sighted children pass through the same developmental sequence as normal children, but at a slower rate.

PSYCH

Swanson, H. L., Minifie, D., & Minifie, E. (1979). Conservation development in the partially sighted child. Psychology in the Schools, 16, 309-313.

A comparative study of conservation development in 120 partially sighted, sighted, and sighted blindfolded children at 4 age levels (6-7, 8-9, 10-11, and 12-15 years) showed that visually impaired performance was inferior to sighted Ss at all age levels, while little difference was found between partially sighted and blindfolded Ss' performance.

PSYCH

Tobin, M. J. (1972). Conservation of substance in the blind and sighted. British Journal of Educational Psychology, 42, 192-197.

Results of a conservation of substance experiment suggest that while the best of blind or partially sighted 5-15 year olds perform on a par with the best of their sighted peers, the age range in which conservation is attained is more extended for the visually handicapped. PSYCH

Contrast and Color

Gardner, L. R. (1963). Visual enhancement: The use of figure-ground reversals with the visually impaired. Dissertation Abstracts International, 43, 3285-A-3286-A.

The purpose of this study was to investigate how different figure-ground combinations affect the visual functioning of visually impaired children. The study employed the use of field reversals--printing white and yellow foregrounds on a black background--to decrease the amount of light reflected from printed materials to the eye. Eighteen visually impaired children participated in this study. Findings indicate that neither reversals in contrast nor chromaticity differences were effective measures for increasing the visual functioning of visually impaired children.

BVIDB

Gardner, L. R. (1985). Low vision enhancement: The use of figure-ground reversals with visually impaired children. Journal of Visual Impairment and Blindness, 79, 64-69.

Describes an investigation of how different figure-ground contrast combinations affect the visual functioning of visually impaired children. The study employed the use of field reversals--printing white and yellow foregrounds on a black background--to decrease the amount of light reflected from printed materials to the eye. Eighteen visually impaired children ranging in age from nine years, four months to 14 years, six months participated in this study. The findings indicated that neither reversals in contrast nor chromaticity differences were effective measures for increasing visual functioning.

BVIDB

Grigoreva, L. P., Filin, V. A., & Plikhtunov, I. Y. (1972). The perception of contrast by partially seeing schoolchildren. Defectologia, 2, 3-8.

Compared difference thresholds for brightness obtained over a range of background intensities in 9 normal schoolchildren and in 42 schoolchildren with defective vision. Both thresholds of positive contrast (light object on dark background) and of negative contrast (dark object on light background) were reported. Thresholds obtained by extremely myopic Ss (tested wearing eyeglasses) were increased 2-2.5 times in comparison to those obtained by normals; for Ss with atrophy of the optical nerves this increase was 4-5 times; for Ss with dystrophy of the retinal macula it was 4-8 times. Normals showed no differences between thresholds of positive and negative contrast; extremely myopic Ss distinguished light on dark better than dark on light, this relationship being reversed for the other 2 groups of Ss with defective vision. The necessity of considering these differences between groups of partially sighted schoolchildren when making textbooks and visual equipment for them is stressed.

PSYCH

Hiatt, C. K. (1982). The function of color in legibility of linear symbology on maps for the partially sighted. Dissertation Abstracts International, 43, 2098.

Color as used in symbol coding was examined for practical application on low vision maps. The purpose of the study was to determine if partially sighted children are able to detect and differentiate line pairs presented in various hues and lightness. Line widths appropriate for low vision viewing were also explored.

The problem was approached utilizing three experiments. The first two were designed as pretests in which 30 partially sighted subjects performed the tasks. Experiment I tested detectability of red, green, cyan, and black single line segments in six line widths ranging from 0.030 to 0.005 in. (0.76 to 0.13 mm.). Both the full lightness of each color variable and a screened value were represented. Experiment II constituted a test of the ability of the 30 subjects to differentiate combinations of colors displayed as intersecting line segments in three symbol widths. The third experiment was designed to obtain the responses of 52 partially sighted school-age subjects to 12 colored maps. Widths of lines were 0.005 in. (0.13 mm.). Intersections alont two guidelines served as targets.

Subjects performed well on the detection task. Most of the errors were recorded for the finest line weight (0.005 in./0.13 mm.), a line narrower than the average width of the recommended types of styles used in large type books. Line detection was significantly

poorer on targets screened in the green hue. Little problem in color detection was encountered with this fine line weight when colors were presented in full lightness.

The preliminary work on hue legibility in Experiment II suggested that green in combination with cyan (both lightness conditions) used on the finest line weight would be a poor selection for line coding. This finding was confirmed in the third experiment with a map reading task. In differentiating colors on the maps, subjects made the greatest number of errors on screened green and black line pairs. However, red in combinations with green, cyan, and black (full lightness), as well as combinations of cyan-black (full lightness) and red-green (equal lightness) were found to be legible pairs. A difference in lightness level between target lines was not demonstrated as the controlling factor in legibility.

PSYCH

Myers, W. A. (1971). Color discriminability for partially seeing children. Exceptional Children, 38, 223-228.

Thirty 8-12 yr. old myobic children without color vision problems (acuity 20/70-20/200 in the best corrected eye) viewed Snellen E's in 5 different colors against differing backgrounds of the same colors. A black on white combination served as a control condition. E measured the distance at which Ss could identify the direction of the E as well as the distance at which Ss reported greatest clarity; the results of both measures were comparable. Low contrast combinations were poorer than the control (p less than .05). A few combinations (e.g., yellow on blue and black) were nonsignificantly better than the control. The relative ranking of all combinations is reported. The study is significant in that it used controlled colors (Munsell) and statistical techniques.

PSYCH

Demographics

Fine, S. R. (1968). Blind and partially sighted children. London: Her Majesty's Stationery Office.

Report of survey of 817 blind and partially sighted children between 1962 and 1965 in England and Wales. Reports on following topics: Clinical diagnosis, etiology, visual acuity and visual fields, schools previously attended, use of visual aids, mobility, intelligence, additional handicaps, mannerisms, and attitudes of children, parents, and teachers.

BVIDB

Genensky, S. M. (1978). Data concerning the partially sighted and the functionally blind. Journal of Visual Impairment and Blindness, 72, 177-180.

Examines the relative numbers of the nation's partially sighted and legally, but not functionally blind. It also examines the functionally blind as related to age and the frequency with which partial sight occurs in the nation's population for various age ranges.

BVIDB

Grover, E. C., et al. (1965). Ohio programs for visually handicapped children: A report on the 1964-65 Columbus, OH Study of Partially seeing. Columbus: Department of Education, Division of Special Education.

Declining enrollment in program for partially seeing, problems of incidence, visual functioning, and multiple handicaps were investigated, including screening 23,611 students in 4th to 6th grades. IQ level and achievement reported with case histories of 36 partially seeing children.

BVIDB

Ismail, H. (1976). Considerations in the provision of comprehensive care for children with severe visual handicap. Child: Care, Health & Development, 2, 99-106.

Medical and other records of 177 partially sighted children were examined. The group had a large number of additional handicaps and a high rate of familial defect. Implications for the provision of comprehensive care for these children are discussed.

BVIDB

Oseroff, A., & Birch, J. W. (1971). Clearinghouse: Relationships of socioeconomic background and school performance of partially seeing children. Exceptional Children, 38, 158-159.

Academic achievement and economic background of 29 intermediate grade children enrolled in special educational programs for the partially seeing were studied. Results indicated that socioeconomic status was significantly related to both age-grade status and academic achievement at the 5% level of confidence.

BVIDB

Robertson, C. H. (1963). Services to children reported by optical aids clinics. International Journal for the Education of the Blind, 13, 59-61.

Of 42 functioning optical aids clinics, 26 responded to a questionaire survey. Findings show growing service to children.

BVIDB

Verma, S. B. (1975). Analysis of 85 subnormal vision cases. Optometric Weekly, 66, 1019-1026.

Study of 85 patients selected at random at a low vision clinic. The population was assessed to determine incidence in various groups, causes of low vision and types of visual aids prescribed.

BVIDB

Driving

Booher, H. R. (1978). Effects of visual and auditory impairment on driving performance. Human Factors, 20, 307-319.

Reviewed surveys, analysis, and experimental studies which seem to indicate that vision deficiencies have an adverse effect on safe driving performance. However, author points out that a number of severely visually impaired individuals have been shown to drive safely with the aid of telescopic lens spectacles.

BVIDB

Feinbloom, W. (1977). Driving with Bioptic Telescopic Spectacles (BTS). American Journal of Optometry and Physiological Optics, 54, 35-42.

The author, an optometrist, reports on the experiences of 300 low vision patients using bioptic telescopic spectacles for driving. BVIDB

Kelleher, D. K. (1979). Driving with low vision. Journal of Visual Impairment and Blindness, 73, 345-350.

Discusses current status of driving with low vision, both with and without a bioptic telescope. Specifies licensing criteria, training sequences, identifies problem areas. Preliminary data from a comparison of safety records in three states are presented.

BVIDB

Keller, J. T., & Eskridge, J. B. (1976). Techniques, instruments, cases: Telescopic lenses and driving. American Journal of Optometry and Physiological Optics, 53, 746-749.

It was concluded from the study that visual field limitations are present when the telescopic lens is used for driving. The authors recommend that the use of the device for driving should be discouraged. BVIDB

Educational Plans

Head, D. N. (1979). Factors in public school placement and their relationship to self-concept in congenitally visually impaired adolescents. Dissertation Abstracts International, 40, 194-195.

The main problem of this study was to determine whether class placement (residential, resource, itinerant) is related to the degree or strength of self-concept in visually impaired adolescents as measured by the Tennessee Self-Concept Scale (TSCS).

Subjects were 7th to 12th graders average in academic performance selected from residential, resource, and itinerant class placements in three regions of the country.

Reviewing the findings of the statistical data presented leads to the following conclusions. There is no evidence to conclude that blind, when compared to low vision adolescents, vary in their strength of self-concept on the attributes of class placement, being at age or overaged for grade placement or grade level placement. However, examination of the data concerning class placements and being at age or overaged for grade placement showed lower mean scores for itinerantly placed visually impaired adolescents and lower mean scores for the visually impaired adolescents who were overaged for grade placement. This represents a possible trend for these groups to be lower. Interpretation of these trends must be approached with caution as none of the absolute differences were statistically significant.

Finally, there was a difference, reflecting a change, for blind and low vision adolescents from the junior to the senior high school level. The low vision subjects showed a significant increase in the self-concept score while the blind subjects showed a decrease, though not statistically significant.

PSYCH

Scholl, G. T. (1978). The modification of self-study instruments for use in day programs for the visually handicapped: Final Report.

The product (1) reviewed the standards of the National Study of School Evaluation for residential schools for the visually handicapped, (2) identified additions appropriate to day programs for the visually handicapped, and (3) developed a guide to help school districts evaluate the effectiveness of their programs for the visually handicapped in light of program evaluation requirements of Public Law 94-142, The Education for All Handicapped Children Act. During phase 1, 42 special teachers in four states responded to a survey on the appropriateness of the existing evaluation instruments for day school programs. In the second phase additional recommendations were solicited from 105 teachers with emphasis on effects of degree of vision and level of intellectual functioning, Results of phase 1 indicated a high level of satisfaction with the existing instruments, while phase 2 showed that most curricular areas were judged to be appropriate for both pupils with no vision and study and evaluation guide (for day school programs) with the following sections was developed: instructions, philosophy and experiences, instructional areas offered to all pupils, special instructional areas and techniques, nonacademic areas, and an evaluation summary. Appendixes to this report include the phase 1 and 2 instruments. the initial letter and instructions, and lists of suggested curricular areas.

Sibert, K. N. (1966). The "legally blind" child with useful residual vision. International Journal for the Education of the Blind, 16, 33-44.

A very detailed report with copies of forms used to determine usable vision and plan school placement. Typical individual needs are listed. A chart showing the placement and results for 40 children represents case history summaries.

BVIDB

Stephens, T. M., & Birch, J. W. (1969). Merits of special class, resource, and itinerant plans for teaching partially seeing children. Exceptional Children, 35, 481-485.

Reviews pertinent literature re advantages and disadvantages of 3 organizational schemes for education of partially seeing children. Findings of recent studies are compared with stated advantages for each pattern.

BVIDB

Employment and College Preparation

Davidson, T. M. (1975). A study of the career development of visually impaired adolescents. Dissertation Abstracts International, 35, 7754.

This study was designed to compare the involvement in career planning, exploratory occupational experiences, and level of career maturity, and the locus of control for 41 public day school visually impaired, 48 residential school visually impaired, and 40 sighted 8th-12th grade students of average or above intelligence. Each subject was administered a 193-item "Career Development Survey."

The major findings were: (a) that the visually impaired sample demonstrated a normal career development. (b) in general, the visually impaired residential and public day school samples did not differ with regard to career development. (c) that the totally blind male and female public day school subjects were not as experienced in occupational exploration as the remainder of the visually impaired sample and the sighted sample. (d) When visually impaired subjects were grouped by degree of visual acuity, no differences were obtained between the three groups in Exploratory Occupational Experience, Career Planning Involvement, and Locus of Control. For the Career Choice Attitude variable, the intermediate visual acuity category demonstrated the greatest career maturity.

(e) Only on the career development variable of Exploratory Occupational Experience were there differences between males and females, with traditional sex role stereotype being evident for both the visually impaired and sighted samples.

(f) Contrary to at least one previous research finding, the visually impaired and sighted samples did not differ on locus of control orientation, and there were overall differences between the visually impaired residential and public day school samples. However, the latter finding was attributed to the marked external locus of control orientation of the females comprising the residential school sample.

(g) For the visually impaired sample, internal locus of control was shown to be positively related to higher functioning on all three career development variables.

The results are discussed in terms of implications for career education programs with the visually impaired.

PSYCH

Rasmussen, H., Linstow, H., & Skovmand, J. (1978). Employment of the blind and partially sighted, 1975: An interview survey of 581 blind and partially sighted persons in gainful occupations, Copenhagen, Denmark: Danish Assoication of the Blind.

Report based on survey of selected severely visually impaired and partially sighted persons who are members of the Danish Association. BVIDB

Trief, E. A. (1983). Guidelines for pre-college preparation for the visually impaired. Dissertation Abstracts International, 43, 3292.

The major purpose of this study was to develop a set of guidelines for pre-college preparation based on the perceptions of visually impaired college graduates.

A questionnaire was orally administered to 32 visually impaired college graduates from the New York metropolitan area. Thirteen of the subjects were congenitally partially sighted, 9 were adventitiously totally blind, and 10 were congenitally totally blind. The questionnaire was divided into three parts. Part I elicits information about the students visual impairment, high school experience, participation in a pre-college program, college experience, and graduate school and work experience.

Part II is a set of guidelines in the areas of communication skills, orientation and mobility, activities of daily living and psychological and social skills. The guidelines evolved from the review of the literature and the interviews with specialists in the field. Each guideline was placed on a one to five rating scale with one representing most important.

The questions in Part III ask the graduates if pre-college programs are necessary and when they should be attended.

The responses to the questionnaire indicate that most of the guidelines are important and recieved a three rating or higher.

The results of this study indicate that pre-college preparation is important for the visually impaired. However, the basic skills should be acquired throughout a persons education. Adventitiously totally blind individuals can acquire many of the special skills during the rehabilitation process at an agency for the blind.

Working party for the partially sighted. (1974). The partially-sighted school leaver (Report). Teacher of the Blind, 62, 9-16.

Discussion of careers education program in England, and the feeling that there should be more provision specifically for the partially sighted. Statistics for 285 school leavers show the numbers entering 30 different occupations and 5 categories of further education.
BVIDB

Intelligence

Kastenbaum, S. M. (1981). Effects of reduced visual acuity on performances on the Wechsler Adult Intelligence Scale. Journal of Visual Impairment and Blindness, 75, 25-27.

In administrating the complete Wechsler Adult Intelligence Scale, the psychologist may not be able to determine whether a low score is due to reduced vision or reduced ability to perform a task. This study however, revealed that simulation of 20/200 visual acuity results in significantly reduced performance on the scale's Digit Symbol Subtest, Picture Completion Subtest, and Picture Arrangement Subtest. BVIDB

Levitt, E. A., Rosenbaum, A. L., Willerman, L., and Levitt, M. (1972). Intelligence of retinoblastoma patients and their siblings. Child Development, 43, 939-948.

Compared 25 sighted and 19 blind retinoblastoma patients with their normal siblings (N = 59) on the WAIS, WISC, Stanford-Binet Intelligence Scale, or Williams Intelligence Scale for children with defective vision. Ss blinded from the disease averaged 10 IQ points above their siblings, while sighted Ss with both eyes affected by the disease were inferior to their controls. Unilaterally affected Ss did not differ from their controls. It is concluded that while retinoblastoma per se is not associated with intellectual superiority or inferiority, retinoblastoma associated with blindness may result in selective cognitive superiority.

PSYCH

Lighting

Bandoveres, E., Kukish, P., & Giers, P. M. (1981). Experimenting with light in a manual skills shop. Journal of Visual Impairment and Blindness, 75, 222-223.

Experiments with lighting for low-vision clients in the Manual Skills Department, Blind Rehabilitation Clinic, Veterans Administration Medical Center in North Hampton, MA are described and reviewed.

BVIDB

LaGrow, S. J. (1983). Assessment of optimal illumination for visual response accuracy in visually impaired adults. Dissertation Abstracts International, 44, 137-A.

The currently accepted position concerning recommended lighting for visually impaired individuals is that individually identified and specified lighting is required for these persons to attain optimal visual performance. However, there is presently no formula for predicting the placement of intensity of a light source needed for any given patient, nor are there any specific rultes for determining optimal illumination for visually impaired individuals. The purpose of this study was to determine: (a) if individual levels of optimal illumination could be reliably determined for visually impaired adults, (b) if variance existed in the levels identified, and (c) if the level identified is assessment had validity in relation to a practical reading task. Results indicate that optimal visual illumination was identified for 93% of the sample. Variance in illumination levels is defined and high levels of reliability and validity were found.

BVIDB

Lie, I. (1977). Relation of visual acuity to illumination, contrast and distance in the partially sighted. American Journal of Optometry, 54, 528-536.

Sixteen partially sighted patients were tested to determine what effect contrast and illumination have on best-obtainable visual acuity. Wide variations from patient to patient were found within the study. BVIDB

Southall, D. (1984). The effect of task luminance and contrast upon the reading performance of visually handicapped school children. The British Journal of Visual Impairment, 11, 78-81.

Groups of partially and fully sighted school children read a series of short passages under luminances ranging from 13 to 500 cd/m2 and contrasts of 50, 70, and 90%. Task conditions were found to have significant effects upon the performance of partially sighted children whereas no effect was observed within the fully sighted group. The response to task conditions was not related to visual status. It is argued that proper lighting is an important factor contributing to the use of residual vision.

BVIDB

Low Vision Aids Training

Hanninen, K. A., Bates, S. S., & Thume, L. (1977). Low vision aids: Students' experiences. Journal of Visual Impairment and Blindness, 71, 113-117.

Describes the function of a low vision clinic and reports on an evaluation of one clinic's services to 11 recent high school graduates. Findings indicated general satisfaction with the services and identified some obstacles in the use of low vision aids.

BVIDB

Howell, J. L. (1980). Evaluation and testing of a low vision aid training program: A plan for increasing functional vision efficiency of visually impaired elementary school students. Dissertation Abstracts International, 41, 2060A.

The purpose of this study was to test the effects of a low vision aid training program with 18 elementary school children. The author used the Visual Environmental Adaptation Problems of the Partially Sighted. She found that such a training program can teach students to use aids effectively and efficiently.

BVIDB

Mathematics

Nazarova, T. P. (1972). Some characteristics of the mental activity of partially-sighted school children. Defectologia, 2, 8-16.

Compared ability to work mathematic problems by the "Object-Activity" method in second and fourth-grade pupils with normal (N = 56) and defective vision (N = 94). Task 1 involved adding trucks to and subtracting cars from a group of toy vehicles, then comparing the number of each type of vehicle remaining. Task 2 consisted of showing Ss 3-, 4-, and 12-brick "foundations" for 24-brick toy houses, asking them which house would be highest and how many bricks would be needed to complete each, then requesting them to finish building the houses. Partially-sighted fourth-grade Ss performed better than did partially-sighted second-grade Ss but all children with defective vision performed more poorly than their normal-sighted age-mates. Activities are suggested to help partially-sighted children acquire the ability to reconstruct the conditions of an arithmetic problem with real actions Ss objects and the ability to represent mentally the spatial relations among objects.

PSYCH

Microfiche

Anderson, T. (1980). Microfiche as a reading aid for partially sighted students. Journal of Visual Impairment and Blindness, 74, 195-196.

The National Center for the Education of the Blind has conducted experiments which involved nine partially sighted adults to assess the use of microfiche as a reading aid for partially sighted students. It was shown that microfiche is a positive complement to other reading aids.

Andersson, T. (1977). The microfiche-technique as a reading aid for partially sighted students. In H. Smedshammar & Nils Trowald, Eds. Projektet FOUKUS III: Rapport nr 63. Uppsala, Sweden: Pedagogiska, Institutionen, LHU, 27-35.

Discussion of a microfiche system which was found to be effective as a practical reading aid for the partially sighted with a sharpness of vision between 0, 04-0, 3.

BVIDB

Miscellaneous

Olsen, H. B. (1982). Design and evaluation of an adventure playground for blind and partially sighted children. International Journal of Rehabilitation Research, 5, 380-382.

Describes the design of a "sensory" playground located near Napa, California, for blind, partially blind, and deaf-blind children and young adults. The sensory area was designed to help increase the children's motor and mental development and be a safe place for exploration of different spaces, materials, forms, surface textures, and sensations. Evaluation by observers shows that it facilitates "adventure" play and interaction between the children and counselors. There were no recorded incidences of a child feeling unsafe or a counselor intervening for the protection of a child.

PSYCH

Rubin, J. A. (1976). The exploration of a "tactile aesthetic." New Outlook for the Blind, 70, 369-375.

A study of scrap wood sculptures created by blind, partially sighted, and sighted children suggested a different aesthetic sensitivity in the blind influenced by associate response to shape, form and structure, and stability relating to the individual's life experiences.

BVIDB

Mobility

Rutberg, J. E. (1976). Orientation and mobility in the urban environment: a form of future shock. New Outlook for the Blind, 70, 89-93.

Discusses the internal and external pressures experienced by the blind or partially sighted person attempting independent travel to an urban environment. Normally sighted individuals in the city are virtually "bombarded" by visual, auditory, tactual, and olfactory stimuli--some of which require immediate attention and response. The task of selective attention to stimuli is particularly difficult for the blind person, especially because of the rapid physical change occurring within the city. A. Toffler's (1970) term "Future Shock" is used to describe the condition which this sense of impermanence and overstimulation produces. Blind travelers, however, often develop an adaptive mechanism which aids in reducing the tension and anxiety experienced in potentially dangerous, unpredictable situations. Accepting pedestrian assistance and using a guidedog as protection are discussed. Results of a mobility seminar with 65 visually impaired, urban-dwelling older persons who had completed the mobility training within the previous 5 years indicate that no more than 15% traveled independently within one block of their homes. It is concluded that new means of easing stress in blind urban travelers need to be explored. Desensitization is suggested as a possible method for use in orientation and mobility counseling sessions.

PSYCH

Smith, A. J. (1976). Orientation and mobility and low vision training without aids: Trends and needs. Low vision Abstracts, 2, 11-22.

Presents needs and trends in low vision mobility training by reporting the statistics and summaries of three telephone surveys involving (1) colleges and universities which prepare O & M specialists; (2) O & M specialists in residential and day schools; and (3) O & M specialists in agencies. Urges an interdisciplinary approach to the problems of the low vision individual.

BVIDB

Motor Performance

Gruman, D. (1973). Motor performance of legally blind, partially seeing and normal males. Dissertation Abstracts International, 33, 4981-4982.

This comparison of the performance of legally blind, partially seeing, and normal males, 10 to 15 years of age, enrolled in public school classes in two counties in Florida and two counties in Georgia on gross and fine motor tasks indicated that public school visually impaired males performed similarly to normally sighted peers on pull ups, sit-ups, standing broad jump. In the shuttle run subtest the normal group surpassed both visually impaired groups. The partially seeing group was faster than the legally blind group.

The analysis of the time motor data resulted in nonsignificance for the subtest: Making a Ball (left hand), Winding Thread (right hand), and Winding Thread (left hand). Normally sighted subjects performed significantly better than legally blind subjects on making a ball (right hand).

The three groups performed similarly on all but two subtests with one exception, it was concluded that public school visually impaired adolescent males do not need a differentiated program. The one exception was the recommendation that school personnel plan more running events on well-marked courses in order to provide more of this type of experience.

PSYCH

Lindstedt, E. (1979). The significance of disturbances of the motor system of the eye in low vision children. Child: Care, Health and Development, 5, 409-412.

Defects of the neuromotor system of the eye were found to occur in 80% of the 70, 6- to 15-year-old, visually impaired children that were tested. The influence of such defects on the developing visual acuity is discussed.

BVIDB

Optical Aids

Bailey, I. L. (1978). New "expanded field" bioptic systems. Optometric Monthly, 69, 981-984.

Describes new sophisticated telescopic designs to aid the low vision population. Also compares the new designs to the more conventional systems.

BVIDB

Bailey, I., Kelty, K., Pittler, G., et al. (1978). Typoscopes and yellow filters for cataract patients. Low Vision Abstracts, 4, 2-6.

Using 9 cataract patients and 10 normal wearing frosted lenses as Ss, the effects of typoscopes and yellow filters were studied in relation to acuity and reading speed. Typoscopes improved acuity; other results were conflicting or doubtful.

BVIDB

Brazelton, F. A., Stamper, B., & Stern, V. (1970). Vocational rehabilitation of the partially sighted. American Journal of Optometry and Archives of American Academy of Optometry, 47, 612-618.

Reports of 55 patients who were evaluated to determine whether any type of visual appliance would be helpful in obtaining or maintaining employment or education.

BVIDB

Efron, M. (1976). Use of low vision aids to supplement large print materials. In Selected Papers: Fifty-third Biennial Conference. Philadelphia: Association for Education of the Visually Handicapped, 83-85.

A comparison of the use of large print and the use of the Visolett, a magnification device, indicated that students do read as well when using the Visolett and that it is a valuable tool in the education of the visually handicapped.

BVIDB

Efron, M., & Lackey, G. H. Jr. (1982). The arithmetic test performance of low vision adolescents using two modes of magnification. Journal for Special Educators, 18, 76-82.

The Visolette, a small magnification device, was as effective as large print materials for 45 visually handicapped adolescents performing arithmetic tasks. Findings suggested potential uses for the device, including as a supplement to large print materials. BVIDB

Fonda, G., Thomas, H., & Gore, G. V., III. (1971). Educational and vocational placement and low-vision corrections in albinism: A report based on 253 patients. Sight-Saving Review, 41, 29-36.

Primarily concerned with use of visual aids to increase effectiveness of vision in albinism. Data is presented in 2 age groups: Under 23 years of age; 23 and older. With aids, most were able to use standard print.

BVIDB

Gadbaw, P. D., Finn, W. A., Dolan, M. T., et al. (1976). Parameters of success in the use of Fresnel prisms. Review of Optometry, 113, 41-43.

Interim report on 39 patients with extremely reduced fields examines and analyzes the effects of prism placement and other parameters in successful prism applications. A preliminary report by Finn in New Outlook for the Blind, Dec. 1975, outlined the techniques and parameters studied.
BVIDB

Gettes, B. C. (1959). Optical aids for low vision. International Journal for the Education of the Blind, 8, 98-100.

Describes the contributions made by new devices, the Conoid Lenses of David Volk, M.D., and charts by Keeler. Experience at Willis Eye Hospital, Philadelphia, shows that more patients are helped with strong reading corrections than any other device.

BVIDB

Keck, G., Cabaj, A., & Kemmetmuller, H. (1981). Colored contact lenses applied to the color dificient. Sensory World, 10-16.

The authors present their findings respecting the utilization of colored contact lenses for the benefit of color deficient persons. The effect produced is quantified and evaluated for protanopes and deuteranopes.

BVIDB

Kennedy, W., Rosten, J., Young, K., et al. (1977). A field expander for patients with retinitis pigmentosa: A clinical study. American Journal of Optometry and Physiological Optics, 54, 744-755.

An inexpensive visual field expander was tested on ten patients with retinitis pigmentosa to determine its value as a field scanner and mobility aid.

BVIDB

Lackey, G. H., Efron, M., & Rowls, M. D. (1982). For more reading: Large print books or the Visolett? Education of the Visually Handicapped, 14, 87-94.

The amount of reading done by a group of partially sighted students using large print was compared to the amount of reading they did in the same period using a low vision aid, the Visolett. Fifty-five elementary and junior high students formed 2 groups which alternately used large print and the Visolett for 8 weeks each. In a comparison of the number of books and pages read, elementary students read significantly more (.05) books and junior high students read significantly more pages with the Visolett. The Visolett is recommended as a highly versatile supplement to large print for many low vision students.

BVIDB

Major, J. A. (1978). Visually impaired reader in the academic library. College and Research Libraries, 39, 191-196.

Visually impaired students at the Ohio State University were questioned by telephone interview with regard to the need for specialized library services and optical/reading aids.

BVIDB

Marmolin, H., & Nilsson, L. G. (1976). Optacon reading aid: An evaluation of instruction method and applicability. Uppsala, Sweden: Department of Educational Research, School of Education and Uppsala University.

An evaluation of the practical applicability of the Optacon as a reading aid and the effectiveness of training with it indicated that the Optacon is a valuable aid for most persons with impaired vision. However, present methods of instruction limit its practical usefulness.

BVIDB

Morrissette, D. L. (1983). A wide angle mobility light: an aid for night blindness. Journal of Visual Impairment and Blindness, 77, 393-395.

Telephone interviews with 56 adults who had obtained a Wide Angle Mobility Light indicated that the device enabled users to function visually in situations where they normally could not and that training requirements were minimal.

Morrissette, D. L., and Goodrich, G. L. (1983). The night vision aid for legally blind people with night blindness: an evaluation. Journal of Visual Impairment and Blindness, 77, 67-70.

The Night Vision Aid (NVA) was evaluated to determine its effectiveness as an orientation and mobility aid for legally blind persons with night blindness. On the average, the NVA did not significantly improve the Ss mobility at night; the majority of them preferred the Wide Angle Mobility Light.

Ricker, K. S. (1981). Optical media bring biology to visually impaired students. The Science Teacher, 48, 36-37.

The paper reports the results of a study of alternatively optical media to be used instead of a microscope in Biology class. Equipment assessed for use was: micro-projectors, micro-slide-views, closed-circuit TV systems, rear-viewing screen, and projectors. Emphasis is placed on selecting appropriate equipment.

BVIDB

Rosenbloom, A. A., Jr. (1974). Prognostic factors in the visual rehabilitation of aging patients. New Outlook for the Blind, 68, 124-127.

Follow-up study of 150 patients to analyze physical, psychological, social-emotional, and occupational factors and their relationship to predicting success in the use of low vision aids. Revealed the importance of residual vision, the patient's life situation, and the extent of the training in the use of the aid.

BVIDB

Rusalem, H. (1957). "IHB Optical Aids Survey"--A review of research. New Outlook for the Blind, 51, 454-456.

Report on the first 500 persons who received service from the optical aids program of Industrial Home for the Blind, Brooklyn. Concludes that in any population of partially seeing individuals, a substantial number would probably benefit from such service. BVIDB

Salmon, P. J. (1953). Improving vision among the blind. Sight-Saving Review, 23, 136-138.

Studies show that about 50% of persons classified as blind have some remaining sight. Suggests optical aids that can provide for improvement of the remaining vision.

BVIDB

Silver, J. H. (1976). Low vision aids in the management of visual handicaps. British Journal of Physiological Optics, 31.

Evaluates the management of juvenile macular degeneration, albinism, retinitus pigmentosa, and diabetic retinopathy with low vision aids and services. The latter two have lower success rates, but the prognosis for success is related more to a patient's motivation and the appropriateness of the aid than it is to the patient's condition. BVIDB

Reading

Fridal, G., Jansen, L., & Mogens, K. (1981). Courses in reading development for partially sighted students. Journal of Visual Impairment and Blindness, 75, 4-7.

Two experimental reading development courses for partially sighted students were conducted at the Institute for the Blind and Partially Sighted in Copenhagen, Denmark. These students read so slowly that they could not complete their study assignments. Each course had four participants. The goals of the courses were to raise and vary the participants' reading speed, to help them gain insight into the reading process, and to develop the cognitive aspects of reading. At the end of each course, the participants proficiency in reading improved dramatically.

BVIDB

Krischer, C. C., & Meissen, R. (1983). Reading speed under real and simulated visual impairment. Journal of Visual Impairment and Blindness, 77, 386-388.

The reading speed of subjects was studied under conditions of simulated and real vision impairment. For subjects with normal visual field and average reading speeds, two types of visual impairments were simulated: Cataracts and deteriorated retinas. Three groups of partially sighted persons were also studied: those with normal visual fields, those with defects in peripheral fields, and those with defects in the central field. The results for these three groups were similar to those obtained under conditions of simulated visual impairment. The authors conclude that reading speed depends on visual acuity. BVIDB

Barraga, N. (1963). Mode of reading for low-vision students. International Journal for the Education of the Blind, 12, 103-107.

Following review of the literature, describes a study of reading characteristics of a group of low-vision students who regularly use both ink print and braille. Following 6 45-minute training sessions, some gains in reading skills were found.

BVIDB

Okada, A. (1975). An analysis of individual differences in reading abilities of partially sighted children. Japanese Journal of Psychology, 46, 165-170.

Analyzed the intra- and inter-individual differences in reading abilities of partially sighted children. Ss, 79 normal-sighted children and 20 partial-sighted ones, were administered 20 tests. In order to analyze the intra-individual differences by the ratio of individual scores obtained, T scores were converted into Z scores after obtaining the T score of each of the 20 tests.

Partially sighted Ss were significantly inferior to normal-sighted Ss in 7 tests. By both cluster analysis and Q-technique, the clusters were found to be unstable in terms of the discrimination of the partially-sighted from the normal-sighted. Two groups, however, were completely discriminated by the method of multiple correlation co-effecient of which the ratio was 0.839.

PSYCH

Shaw, R. A. (1978). Internal cues used by children with low vision in visual recognition of individually presented words. Dissertation Abstracts International, 39, 3519-3520A.

Study to determine whether children with low vision, when looking at an isolated word, cue to the first letter position, medial position, last letter position, or word shape. Ss were 30 low vision and 15 normally sighted 11-year-olds. It was concluded that those with low vision use cues similarly to normally sighted children. Based on the study it is felt that low vision children may be appropriately educated within the mainstream.

BVIDB

Self-Concept

Parmenter, T. R. (1970). Self-concept development of the partially seeing. Slow Learning Child: The Australian Journal on the Education of Backward Children, 17, 178-185.

Self-concept inventories were administered to adolescent partially seeing Ss. Results indicate that there are no significant differences in self-concept development between 2 groups.

BVIDB

Shands, S. S. L. (1979). An analysis of self-concept scores, higher educational aspirations and personal characteristics of the blind and partially-sighted adolescent. Dissertations Abstract International, 39, 5049.

The purpose of the study was to ascertain whether a relationship exists among certain self-concept scores on the Tennessee Self-Concept Scale, certain higher educational asperations, and certain personal charateristics of the blind and partially-sighted adolescent.

A total of 51 students were involved in the study from two schools serving blind and partially sighted students in the midwest United States. The ages of the students ranged from 12 through 18 years old, and the education grade-levels ranged from the third through the twelfth.

The results from the study indicated that significant relationships at the .05 level for any of the research hypothesis, however, there were practical or qualitatively significant points that developed from the findings. Numerous implications were derived from the study in light of the overall conceptual prupose of the study and in light of the literature on the blind and partially sighted adolescent as a physically impaired student.

PSYCH

Tactual Perception

Heystek, J. (1981). A three-dimensional projecting technique for the personality assessment of the partially sighted and blind. Dissertation Abstracts International, 42, 1607-1608.

A modified version of the Three-Dimensional Personality Test (TDP) was admininstered to 120 pupils of the Worcester School for the Blind and from the test protocols obtained, descriptions of the individual personality structures were made. These descriptions were expressed in terms of 25 respective factors of an evaluation questionnaire for each subject and at a later stage were compared with identical evaluation questionnaires, completed by the teaching personnel on the basis of their subjective assessments of the individual subjects. The validity of the Three-Dimensional Technique for the personality evaluation of this population was determined by correlating the two sets of evaluation--a correlation which rendered $r = 0.2433$, significant at the .02 level of confidence.

By comparing the various test protocols with the clinical history and medical data, the potential use of the 3-DPT as a psychodiagnostic aid has been investigated and the research findings indicate that, in this respect, this evaluation technique promises some merit.

In its final format this research provides decisive answers to a few theoretical and practical assumptions about the tactual perception of the partially sighted and the blind and offers a few hypothetical points of departure in the evolution of the 3-DPT as a technique for the personality assessment of this particular popluation.

PSYCH

Simpkins, K. E. (1979). Tactual discrimination of household objects. Journal of Visual Impairment and Blindness, 73, 86-92.

Explored the young child's concept of space through tactual discrimination of common household objects. Sixteen blind, 16 partially sighted, and 16 sighted 4-7 year olds were rated by their parents on the household objects familiarity assessment, developed by the author. Results were analyzed in terms of degree of vision, amount of previous schooling (none vs. 1 year) and the sex for the variables of type of identification required, rooms of the home represented, and degree of familiarity displayed. Results indicate no significant differences on the basis of vision, schooling, or sex. Type of identification and room categories were both found to differ significantly when tactual discrimination of objects was required. It is suggested that further study of this area might provide an instrument for assessing the young child's school readiness.

PSYCH

Behavior Reinforcement

Simpkins, K. E. (1979). Tactual discrimination of shapes. Journal of Visual Impairment and Blindness, 73, 93-101.

The young child's development of the concept of space was explored using shapes charaterized by topological and euclidean relations. Blind, partially sighted, or sighted 4-7 year old Ss with no previous schooling (n = 24) or with 1 year of schooling (n = 24) were required to tactually explore a stimulus shape and then to locate the identical shape tactually from among 4 alternatives. No significant differences were found on the basis of vision or sex, but school experience did affect choice. Results are examined in terms of Piaget's theory of spatial development and are found to parallel his findings with sighted children.

PSYCH

Teacher and Family Training

Corn, A. L. (1981). Development and assessment of an in-service training program of the visually handicapped: Optical aids in the classroom. Dissertation Abstracts International, 41, 5055A.

This study concerned training teachers of the visually handicapped to assist their students to master their prescribed optical aids. The task was to solve problems involving the interaction of optical aids and classroom tasks in the regular classroom.

BVIDB

Dumas, A., & Sadowski, A. D. (1984). A family training program for adventitiously blinded and low vision veterans. Journal of Visual Impairment and Blindness, 78, 473-478.

The family training program at the Western Blind Rehabilitation Center is an integral part of the rehabilitation process for adventitiously blinded and low vision adults. An exploratory study was conducted to assess which aspects of the training were the most outstanding and to inquire how the program affected interpersonal relations and attitudes toward sight loss. Results showed a marked reduction in stated problems immediately after the training and over a three-and-a-half year period of time. The study demonstrates similar benefits for older family members, those receiving shortened programs and those who have been living with sight loss for many years.

BVIDB

Ozias, D. K. (1975). An evaluation of a research information dissemination and translation vehicle. Austin: University of Texas at Austin.

Report on a survey of 147 teachers to evaluate the success of 15 regional Utilization of Low Vision Special Study Institutes which were designed to facilitate delivery of direct services to low vision children.

BVIDB

Type Size and Style

Birch, J. W., Tisdall, W. J., Peabody, R., & Sterrett, R. (1966). School achievement and effect of type size on reading in visually handicapped children. Washington, DC: Department of Education, HEW.

Best type size was determined for each dhild and a standardized achievement test in appropriate type size administered. Results and conclusions presented. States implications for special education practices, vocational rehabilitation, teacher education, and research. BVIDB

Okada, A. (1975). The effect of legibility and readability on the oral reading of the partially sighted. Japanese Journal of Educational Psychology, 23, 165-169.

Studied how size of print, length of line, writing style, contrast between letter and paper, and the ratio of Chinese characters used in Japanese language affected the oral reading of 25 partially sighted 6th graders (visual acuity less than 0.3) from schools for the blind. The oral reading was tape-recorded. Four types of reading errors were identified. The number of reading errors was negatively correlated with legibility and readability. A positive relationship was found between the number of errors and reading speed.

PSYCH

Vanderplas, J. M., and J. H. (1980). Some factors affecting legibility of printed materials for older adults. Perceptual and Motor Skills, 50, 923-932.

Reading speed and acceptance rates were obtained as a function of type size, type style, line width and line spacing in two experiments with older adults. Significant differences were found for different styles, as well as sizes of types. Significant interactions were also found for line width and spacing.

Visual Efficiency Training

Ashcroft, S. C., Halliday, C., & Barraga, N. (1965). Study II, Effects of experimental teaching on the visual behavior of children educated as through they had no vision. Nashville: George Peabody College for Teachers.

Objectives of study to confirm that a short period of experimental teaching enhances visual behavior of partially sighted children as shown by significant increases in visual discrimination test scores and increase in recorded near-vision acuity as determined by an ophthamologist. Significant gains confirmed positive findings of an earlier experiment.

BVIDB

Kaplan, A. J. (1981). Psychophysiological and clinical bases of the development of visual perception in children with residual vision. Studia Psychologia, 23, 277-287.

Describes properties and functional characteristics of vision in children with residual vision. An outline is presented of the characterisitics of residual vision that form the basis for decisions regarding the assignment of children to different classes. A program is described in which Ss are trained to develop visual perception not in isolation but in conjunction with other cognitive functions--it is based on knowledge of the properties, functional possibilities, and laws of development of residual vision. The effectiveness of the program has been demonstrated experimentally.

PSYCH

Kaplan, A. I., Yegoroya, O. I., Molotok, N. A., & Solntseva, O. G. (1982). Preliminary results of visual training of children with residual vision. Defektology, 3, 41-48.

Summarizes the effects of giving lessons on the development of visual perception to children with residual vision. Ss consisted of 1 kindergartner, 13 first graders, 10 second graders, and 5 third graders. The acuity of the central vision of 20 Ss was between .01 and .04. A control group of 30 5-11 year olds with normal vision was used for comparison. During the lessons, Ss with the residual vision learned how to better mobilize their efforts, better concentrate on their work, and better perceive visual information. It is considered important to prevent visual fatigue in this undertaking and to increase the volume of utilized information.

PSYCH

Koriaskin, B. T. (1972). The development of visual perceptiveness in partially sighted school children during the study of nature. Defektologia. 4, 44-48

Tested two methods of training visual perceptiveness. One first-year class was shown pictures of birds which its teacher discussed birds' characteristics (Method A); The teacher of an analogous class asked questions about birds' characteristics that Ss could answer by looking at the pictures she showed them (Method B). Ss who learned by Method B were better able to name the birds and their characteristics when questioned after lesson and showed better retention two days later. In another experiment, fourth-year students who learned about nature by method B made more statements about the unobtrusive details of a painting of a winter scene than did students who learned through Method A. It is concluded that stimulating observation through questions is a superior means of training visual perceptiveness than using visual illustrations of what is being communicated verbally.

PSYCH

Overbury, O., & Bross, M. (1978). Visual training for the severely visually impaired: Implications of research findings to applied situations. Low Vision Abstracts, 4, 7-10.

Reports and summarizes several studies of the effects of training to maximize visual efficiency and suggests additional research aimed at applied settings.

BVIDB

Overbury, O., & Bross, M. (1978). Improvement of visual acuity in partially and fully sighted subjects as a function of practice, feedback, and instructional techniques. Perceptual & Motor Skills, 46, 815-822.

Conducted three experiments to examine improvement of partially (multiple sclerosis) (20/200 or 6/60) and normally (20/20 or 6/6) sighted adults. Measures of resolution and vernier acuity were examined in the first 2 experiments with 40 Ss to determine whether practice, feedback, and instructions would have differential effects on the degree of visual improvement achieved in a 20-minute testing session. Results indicate extensive visual work to be the important factor in the improvement of impaired vision. The third experiment with 16 Ss compared monocular and binocular depth perception of individuals with unilateral optic atrophy. Results yielded an unexpected finding where binocular depth perception was, in most cases, inferior to that of the strong eye alone. The first 2 experiments demonstrated the possibility of improving impaired visual functions, and the third experiment suggests important implications for a theoretical model of depth perception with limited vision.

PSYCH

Rath, W., Haase, W., Cory, P., Cory, D., & Denninghaus, E. (1983). Stimulations of low vision with visually handicapped persons. International Journal of Rehabilitation Research, 6, 83-84.

Announced and described briefly is an interdisciplinary low vision research project at the University of Hamburg involving participants from the fields of special education, ophthamology, and rehabilitation. The programs to be developed are primarily focused on vision stimulation and training.

BVIDB

Barraga, N. C. (1964). Teaching children with low vision. New Outlook for the Blind, 58, 323-326.

Partially sighted children who had been educated as though they had no vision took part in an experiment which indicated that in a specialized short-term setting they could be helped to more fully utilize their remaining vision.

BVIDB

Tobin, M. J. (1972). A study in the improvement of visual efficiency in children registered as blind. New Beacon, 56, 58-60.

Teaching materials developed by Barraga used with low vision students with positive results. Visual Effienciency Scale was also used and low areas concentrated upon.

BVIDB